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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/046,634	01/14/2002	Albertus Cornelis Den Brinker	NL 010450	4798

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PHILIPS INTELLECTUAL PROPERTY & STANDARDS
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EXAMINER	
HARPER, V PAUL	

ART UNIT	PAPER NUMBER
2654	

DATE MAILED: 08/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/046,634	DEN BRINKER ET AL.	
	Examiner	Art Unit	
	V. Paul Harper	2654	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-9 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1,2,8 and 9 is/are rejected.

7)☒ Claim(s) 2-7 is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date 01/14/02,4/22/02.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Information Disclosure Statement

1. The Examiner has considered the references listed in the Information Disclosure Statements dated 1/14/02 and 4/22/02 Copies of the Information Disclosure Statements are attached to this office action.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

2. Claims 1, 2, 8, and 9 are rejected under 35 U.S.C. 102(a) as being anticipated by Taori et al. (International Application Publication Number WO 00/79519 A1), hereinafter referred to as Taori.

Regarding **claim 1**, Taori discloses a system for audio transmission having an improved encoder where audio segments are linked together (abstract). In addition, Taori teaches the following:

- using a linking unit for generating linking information L indicating components of two consecutive extended segments sp and sc which partially overlap and which may be linked together in order to form a sinusoidal track, the segments sp and sc approximating consecutive segments of a sinusoidal audio or speech signal s (p. 4,

lines 17-21, encodes the input signal as tracks of linked signal components where segments can overlap), the linking unit comprising:

- a calculating unit for generating a similarity matrix S(m,n) in response to received sinusoidal code data including information about the amplitudes and the frequencies of M components x_m with m=1...M of the extended previous segment sp and of N components y_n with n=1...N of the extended current segment sc, wherein the values of said similarity matrix represent the similarity between the m'th component x_m of said extended previous segment sp and the n'th component y_n of said extended current segment sc for m=1...M and n=1...N; (p. 5, line 10 through p. 7, line 10, error matrix, table on p. 6) and
- an evaluating unit for receiving and evaluating said similarity matrix S(m,n) in order to generate said linking information L by selecting those pairs of components (m,n) the similarity of which is maximal at least within the an overlapping region (p. 7, lines 1-10, determine which combination of sets of linked signal components results in the smallest output signal of the MSE unit);
- the sinusoidal code data (Dp, Dc) is enlarged by further comprising information about the phase of at least some of the M components x_m and at least some of the N components y_n (p. 5, lines 10-20, the parameters include amplitude, frequency and *phase*);
- the calculating unit is adapted to calculate the similarity matrix S(m n) by additionally evaluating the phase consistency between the m'th component x_m of the

extended previous segment sp and the n'th component y_n of the extended current segment sc (p. 6, line 1 through p. 8, line 21).

Regarding **claim 2**, Taori teaches everything claimed, as applied above (see claim 1). In addition, Taori teaches the following:

- a first pattern generating unit (122) for generating said M components $x_m(t)$ with m=1...M of the extended previous segment sp in response to the previous segment's enlarged sinusoidal code data (Dp) (p. 5, line 10 through p. 7, lines 10, $\mathbf{f_{x,k-1}}$);
- a second pattern generating unit (124) for generating said N components $y_n(t)$ with n=1...N of the extended current segment sc in response to the current segment's enlarged sinusoidal code data (Dc) (p. 6, $\mathbf{f_{x,k}}$); and
- a calculation module (126) for calculating the similarity matrix S(m,n) on the basis of said received M components xm(t) and of said received N components $y_n(t)$ according to a predefined similarity measure (p. 6, p. 7, lines 1-12, tables on pp. 6, 7).

Regarding **claim 8**, Taori discloses a system for audio transmission having an improved encoder. In addition, Taori teaches the following:

- segmentation unit (410) for segmenting said signal s into at least a previous segment sp' and a consecutive partially overlapping current segment sc' (p. 4, lines 30-34, where segments can overlap);
- sinusoidal estimating unit (420) for generating said sinusoidal code data in the form of frequency and amplitude data of M components x_m with m=1...M of an extended

previous segment sp approximating said segment sp' and of N components y_n with n=2 ...N of an extended current segment sc approximating said segment sc' (p. 5, line 10 through p. 7, line 10);

- a calculating unit (120} for generating a similarity matrix S(m n) in response to said received sinusoidal code data wherein the values of said similarity matrix represent the similarity between the m'th component x_m of said extended previous segment sp and the n'th component y_n of said consecutive extended current segment sc for m=1...M and n=1...N (p. 5, line 10 through p. 7, line 10, error matrix, tables pp. 6, 7);
- an evaluating unit (140) for receiving and evaluating said similarity matrix S(m,n) in order to generate said linking information L indicating those pairs of components m,n the similarity of which is maximal (p. 7, lines 1-10, determine which combination of sets of linked signal components results in the smallest output signal of the MSE unit);
- an arranging unit (430) for generating the datastream representing the original audio or speech signal by appropriately arranging said amplitude, frequency and linking information (p. 8, Fig 3, Mux);
- characterised in that the sinusoidal code data estimating unit (420) is adapted to father generate information about the phase of at least some of the M components x_m and of at least some of the N components y_n (p. 5, phase); and
- the calculation unit (120) is adapted to calculate the similarity matrix S(m,n) by additionally considering the phase consistency between the m'th component x_m of the extended previous segment sp and the n'th component y_n of the extended current segment sc (p. 6, line 1 through p. 8, line 21).

Regarding **claim 9**, Taori discloses a system for audio transmission having an improved encoder where the audio segments are linked together (abstract) and the segments can be partially overlapped (p. 4, lines 31-34). In addition, Taori teachs the following:

- providing sinusoidal code data including information about the amplitudes and the frequencies of M components x_m with m=1...M of the extended previous segment sp and of N components y_n with n=1...N of the extended current segment sc (p. 5, line 10 through p. 7, line 10);
- calculating the similarity matrix S(m,n) according to a predetermined similarity measure wherein the similarity matrix represents the similarity between the m'th component x_m of said extended previous segment sp and the n'th component yn of said extended current segment sc for m=I ...M and n=1...N (p. 7, lines 1-10, determine which combination of sets of linked signal components results in the smallest output signal of the MSE unit); and
- evaluating said similarity matrix S(m,n) in order to generate said linking information L by selecting those pans of components m and n the similarity of which is maximal (p. 7, lines 1-10, determine which combination of sets of linked signal components results in the smallest output signal of the MSE unit);
- characterised in that the step of providing the sinusoidal code data further includes the provision of information about the phase of at least some of the M components x_m and of at least some of the N components y_n (p. 6, phase) and

- the similarity matrix S(m,n) is calculated by additionally considering the phase consistency between the n'th component y_n of the extended previous segment sp and the m'th component x_m of the extended current segment sc (p. 6, line 12).

Allowable Subject Matter

Claims 3-7 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: It is noted that the closest prior art of record, Taori et al. (Publication of International Application WO 00/79519 A1), teaches the use of an error matrix (corresponding to a similarity matrix), but Taori et al. do not teach calculating the overall similarity matrix according to:

$$S(m,n)=S_1(m,n)S_2(m,n)$$

wherein the first similarity matrix $S_1(m,n)$ represents the similarity in shape and the second similarity matrix $S_2(m,n)$ represents the similarity in amplitude or energy between components m and n. Thus, the cited prior art alone or in combination, does not fairly suggest or disclose the claimed combination of features.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to V. Paul Harper whose telephone number is (571) 272-7605. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richemond Dorvil can be reached on (571) 272-7602. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

8/02/2005

V. Paul Harper
Patent Examiner
Art Unit 2654